

Rules of Inheritance

Autosomal Dominant

- Appears in both sexes with equal frequency
- Does not skip generations
- Affected offspring must have an affected parent
- If one parent is unaffected but the other parent is an affected heterozygote, approx. 1/2 of the offspring will be affected
- Unaffected parents do not transmit the trait

Autosomal Recessive

- Appears in both sexes with equal frequency
- Trait tends to skip generations
- Unaffected parents can have affected offspring if both parents are carriers
- When both parents are heterozygous, approx. 1/4 of the progeny will be affected

X-Linked Dominant

- Both males and females are affected
- Does not skip generations.
- Affected sons must have an affected mother
- Affected daughters must have either an affected mother or an affected father
- Affected fathers will pass the trait on to all their daughters
- Affected mothers who are heterozygous will pass the trait on to 1/2 of their sons and 1/2 of their daughters

X-Linked Recessive

- More males than females are affected
- Affected sons are usually born to unaffected mothers, thus the trait skips generations
- Approximately 1/2 of carrier mothers' sons are affected
- It is never passed from father to son
- All daughters of affected fathers are carriers

Y-Linked Dominant

- Only males are affected
- It is passed from father to all sons
- It does not skip generations